

UNITED STATES PATENT OFFICE.

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PICKER MECHANISM FOR LOOMS.

934,328.

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To all whom it may concern:

Be it known that I, JOHN H. MALLEY, a citizen of the United States, residing at Harrisville, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Picker Mechanism for Looms, of which the following is a specification.

This invention has reference to an improvement in looms and more particularly to an improvement in the picker mechanism of looms.

In the usual form of looms the picker sticks are operated by the sweep-sticks which are attached to the picker sticks by loop straps secured to the picker sticks by screws which screw through the straps into the picker sticks. The picker sticks are provided with holes for the screws which materially weaken the picker sticks at the point where the greatest power or strain is exerted on the picker sticks. The loops require to be adjusted vertically on the picker sticks when the weight of the cloth to be woven on the loom is changed, and this has heretofore been accomplished by changing the position of the screws with the loop in the holes in the picker sticks. With this adjustment, which is crude and limited, it is impossible to give the fine vertical adjustment of the sweep sticks on the picker sticks which is required for different counts or weights of cloth.

The object of my invention is to improve the construction of a picker mechanism for looms, whereby the sweep stick is attached to and may be finely adjusted on the picker sticks without weakening the picker stick.

A further object of my invention is to flexibly connect the sweep sticks with the adjusting members, whereby the sweep sticks are held in a predetermined position on the picker sticks without interfering with the free forward and back or in and out movements of the picker sticks.

My invention consists in the peculiar and novel construction of a sweep stick supporting and adjusting attachment for the picker mechanism of looms, said attachment having details of construction, as will be more fully set forth hereinafter and claimed.

Figure 1 is a front view of a loom, showing the picker mechanism provided with my improved sweep stick supporting and adjusting attachments. Fig. 2 is an enlarged detail front view of the right hand end of the loom, showing more clearly the flexible con-

nection between the adjusting member and the sweep stick. Fig. 3 is an enlarged detail sectional view taken on line 3 3 of Fig. 2 looking at the face of the attachment. Fig. 4 is an enlarged vertical sectional view through the attachment and part of the loom frame taken on line 4 4 of Fig. 3, and Fig. 5 is an enlarged transverse sectional view taken on line 5 5 of Fig. 3 through the attachment.

In the drawings, *a a* indicate the side frames, *b* the rocking rail, *c c* the picker sticks, *d d* the sweep sticks, and *e e* the picking arms of a loom provided with my improved sweep stick supporting and adjusting attachments *f f*, as shown in Fig. 1.

The picker sticks *c c* are pivotally secured to the outer ends of the rocking rail *b* in the usual way. The sweep sticks *d d* each have a U-shaped strap 6 which extends loosely around the picker stick and is secured to the outer end of the sweep stick, and the inner ends of the sweep sticks are pivotally secured to the free ends of the picking arms *e e* which are operated by the picking cones and picking bowls (not shown) of the loom in the usual way.

The sweep stick supporting and adjusting attachments *f f* consist of right and left fixed members 7 7 each constructed to have the undercut vertical ways 8 8, the two forwardly-extending side arms 9 9 adjacent the top, the central screw-threaded hole 10 between the ways 8 8 and the internal screw-threaded boss 11 on the back, a slide member 12 adapted to have a sliding fit between the ways 8 8 and constructed to have on its lower end the outwardly-extending arm 13 having an eye 14 on its end, the forwardly-extending arm 15 adjacent the arm 13, the vertical screw 16 rigidly secured at its lower end to the end of the arm 15 and extending upward through holes in the ends of the arm 9 9 on the fixed member 7, the nut 17 in screw-thread engagement with the screw 16 between the arms 9 9 on the fixed member 7 and forming with the screw an adjustment for the slide member 12, the vertical slot 18 and the thumb screw 19 which extends through the slot 18 into the screw threaded hole 10 in the fixed member 7 and rigidly secures the slide member 12 to the fixed member 7 in the adjusted position and the flexible connecting member 20 constructed preferably in the form of a tightly coiled spring which is pivotally secured at its lower end to

the eye 14 on the end of the arm 13 of the slide member 12 and pivotally secured at its upper end to the outer end of the sweep stick *d*, as shown in Fig. 2. The fixed member 7 is rigidly secured to the outer face of the side frame *a* under the sweep stick *d* and on a vertical line with the same by a bolt 21 which extends through the side frame *a* into the screw-threaded boss 11 on the back of the fixed member, as shown in Fig. 4.

In the operation of my improved sweep stick adjusting attachment the strap 6 which is secured to the end of the sweep stick *d* is held in its adjusted position on the picker stick *c* by the flexible connecting member 20 which swings on its pivots and adjusts itself to the movements of the picker stick, which is operated in the usual way to throw the shuttle across the warp of the loom. The strap 6 is micrometrically adjusted vertically on the picker stick to vary the power of the sweep stick on the picker stick for different counts or weights of cloth by turning the nut 17 on the screw 16, which raises or lowers the slide member 12 on the fixed member 7 and through the arm 13 and the member 20 correspondingly raises or lowers the sweep stick *d* and strap 6 on the picker stick.

It is evident that the slide member 12 could be adjustably secured directly to the lower frame if desired by a bolt through the slot 18 in the slide member without materially affecting the spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a picker mechanism for looms, a fixed member, a slide member, a connecting member pivotally connected with the slide member and with the sweep stick of the loom, means for slidably connecting the sweep stick with the picker stick, means for adjustably securing the slide member to the fixed member, and means for rigidly securing the fixed member to the frame of the loom.

2. In a picker mechanism for looms, a fixed member, a slide member on the fixed member, a connecting member pivotally connected with the slide member and with the sweep stick of the loom, means for slidably connecting the sweep stick with the picker stick, means for adjusting the slide member on the fixed member, and means for rigidly securing the fixed member to the frame of the loom.

3. In a picker mechanism for looms, a fixed member, a slide member on the fixed

member, a connecting member pivotally connected to the slide member and to the sweep stick of the loom, means for slidably connecting the sweep stick with the picker stick, means for adjusting the slide member on the fixed member, means for securing the slide member to the fixed member, and means for rigidly securing the fixed member to the frame of the loom.

4. In a picker mechanism for looms, a fixed member having vertical ways, a slide member slidably supported in the vertical ways in the fixed member, a connecting member pivotally secured at its lower end to the slide member and at its upper end to the sweep stick of the loom, means for slidably connecting the end of the sweep stick with the picker stick, means for adjusting the slide member in the fixed member, means for securing the slide member to the fixed member in the adjusted position, and means for rigidly securing the fixed member to the frame of the loom under the sweep stick.

5. In a picker mechanism for looms, the combination with the frame *a*, the picker stick *c* and the sweep stick *d* of a loom, of a U-shaped strap 6 extending around the picker stick *c* and secured to the end of the sweep stick *d*, and a sweep stick adjusting attachment *f* consisting of a fixed member 7 having the undercut vertical ways 8 8 and the two forwardly-extending side arms 9 9 adjacent the top, a slide member 12 adapted to have a sliding fit between the ways 8 8 and on its lower end an arm 13 with an eye 14 on its end, a forwardly-extending arm 15, a vertical screw 16 rigidly secured at its lower end to the arm 15 and extending upward through holes in the arms 9 9 on the fixed member 7, a nut 17 in screw-thread engagement with the screw 16 between the arms 9 9 and forming with the screw 16 an adjustment for the slide member 12, and a flexible connecting member 20 pivotally secured at its lower end to the eye 14 on the arm 13 and pivotally secured at its upper end to the sweep stick *d*, means for securing the slide member 12 to the fixed member 7, and means for rigidly securing the fixed member 7 to the frame *a* of the loom.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. MALLEY.

Witnesses:

ADA E. HAGERTY,
J. A. MILLER.